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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/724,237

12/01/2003

Adrian Forster

FORSTER1

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BROWDY AND NEIMARK, P.L.L.C.
624 NINTH STREET, NW
SUITE 300
WASHINGTON, DC 20001-5303

EXAMINER

STULII, VERA

ART UNIT

PAPER NUMBER

1794

MAIL DATE

DELIVERY MODE

12/03/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/724,237	Applicant(s) FORSTER ET AL.	
	Examiner VERA STULII	Art Unit 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 June 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on May 15, 2008 has been entered.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-2 and 8 remain rejected under 35 U.S.C. 103(a) as being unpatentable over Kuhrts (US 2003/0228369) in view of Pilz et al (US 4,263,253) for the reasons stated in the Office action mailed September 7, 2007.

The references and rejections are incorporated as cited in the previous Office Action.

In regard to newly added limitation of the concentration of the xanthohumol extract, it is noted that Regarding storage recitation, it is noted that although the references do not specifically disclose every possible quantification or characteristic of its product, concentration of the xanthohumol extract, this characteristic would have been expected to be in the claimed range absent any clear and convincing evidence

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and/or arguments to the contrary. The combination of references disclose the same starting materials and methods as instantly (both broadly and more specifically) claimed, and thus one of the ordinary skill in the art would recognize that the concentration of the xanthohumol extract, among many other characteristics of the product obtained by referenced method, would have been an inherent result of the process disclosed therein. The Patent Office does not possess the facilities to make and test the referenced method and product obtain by such method, and as reasonable reading of the teachings of the references has been applied to establish the case of obviousness, the burden thus shifts to applicant to demonstrate otherwise.

Claims 3-7 remain rejected under 35 U.S.C. 103(a) as being unpatentable over Kuhrts (US 2003/0228369) in view of Pilz et al (US 4,263,253), Erdelmeier et al. (US 2005/0042318) and Babish et al. (US 2003/0113393) for the reasons stated in the Office action mailed September 7, 2007.

The references and rejections are incorporated as cited in the previous Office Action.

Claims 9-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuhrts (US 2003/0228369) in view of Pilz et al (US 4,263,253), Ohnogi et al. (US 2004/0002423) for the reasons stated in the Office action mailed September 7, 2007.

The references and rejections are incorporated as cited in the previous Office Action.

Response to Arguments

Applicant's arguments filed June 12, 2008 have been fully considered but they are not persuasive.

On page 2 of the Reply to the Office action mailed September 7, 2007, Applicants state that "Kuhrts only discloses that xanthohumol is one of a variety of alpha acids extracted by the method, and never discloses a particular percentage of xanthohumol obtained". In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

On page 3 of the Reply, Applicants state that "the information in Kuhrts regarding the high concentration of alpha-acids and that one of the primary alpha-acids would be xanthohumol is not correct. Only humulon is an alpha acid, wherein xanthohumol is a polyphenol. Therefore, Kuhrts does not disclose the same type of process as claimed herein". Examiner respectfully disagrees. Recitation of xanthohumol in different references does not provide its constant or unwavering definition. Different references choose to label xanthohumol differently. In any case, Kuhrts clearly states that extraction of alpha acid and xanthohumol as an alpha-acid [0045].

On page 3 of the Reply, Applicants state that "[t]he accompanying declaration of Dr. Manfred Gehrig, one of the inventors of the present application, demonstrates that it is unexpected that the particular extraction parameters used in the herein claimed

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method would produce such a large amount of xanthohumol". The declaration under 37 CFR 1.132 has been considered, but is not deemed persuasive. The declaration was submitted as an evidence of unexpected extraction parameters that produces amount of xanthohumol as claimed. However, no comparative experimental data has been provided to support the unexpected result. As stated in the previous Office actions, Kuhrts discloses supercritical carbon dioxide extraction [0043]. Kuhrts teaches that "CO₂ is the most commonly used material in supercritical fluid extraction and fractionation. Supercritical CO₂ extraction also allows for better separation and fractionation of certain components in hops" [0043]. Kuhrts also teaches that extraction of hops yields high concentration of alpha acids [0047] and one of the primary alpha-acids is xanthohumol. [0045]. In regard to claim 8, Kuhrts discloses producing powders from high viscosity fluids by mixing high viscosity fluid and absorbing agent (Abstract). Pilz et al teach that solubility effect in compressed supercritical gases has been known for approximately 100 years (Col.1 lines 59-61). Pilz also teaches that "reference to "supercritical" conditions means under conditions which are above critical temperature and pressure and a "supercritical gas" is a gas under supercritical conditions" (Col. 2 lines 13-16). Pilz et al teach carbon dioxide as a supercritical solvent. Pilz et al teach that the process is carried out under pressures between 20 and 1200 bar (Col. 2 lines 52-53) and temperature range from 20 to 140°C (Col. 2 lines 48-49). Pilz et al also teach the use of supercritical gases is particularly suitable for solids which required to be very pure (Col. 2 lines 27-28).

Since Kuhrts teaches extraction of hops with supercritical carbon dioxide and Pilz et al discloses specific parameters for supercritical carbon dioxide as a solvent, it would have been obvious to one of the ordinary skill in the art at the time the invention was made to modify the disclosure of Kuhrts et al and to apply temperature and pressure ranges taught by Pilz et al in order to produce a pure extract as disclosed by Pilz et al. As taught by Pilz et al, solvent has a better capacity when pressure is higher. One of ordinary skill in the art would have been motivated to increase pressure during supercritical CO₂ extraction in order to produce more concentrated extract.

On page 3 of the Reply, Applicants state that "Pilz adds nothing to Kuhrts". Examiner respectfully disagrees. As stated in the previous Office Action, Pilz et al teach dissolving a solid in a gas which is under supercritical conditions of temperature and pressure (Col. 2 lines 19-20). Pilz et al teach that the process is carried out under pressures between 20 and 1200 bar (Col. 2 lines 52-53) and temperature range from 20 to 140°C (Col. 2 lines 48-49). Pilz et al also teach the use of supercritical gases is particularly suitable for solids which required to be very pure (Col. 2 lines 27-28).

On page 4 of the Reply, Applicants state that disclosure of Pilz "has absolutely nothing at all to do with obtaining xanthohumol from hops, and teaches nothing with respect to the particular temperature and pressure conditions claimed herein". Examiner respectfully disagrees for the reasons stated immediately above.

In response to applicant's argument that Pilz is nonanalogous art (pages 4-5 of the Reply), it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem

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with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, Pilz et al teach dissolving a solid in a gas which is under supercritical conditions of temperature and pressure (Col. 2 lines 19-20). Pilz et al teach that the process is carried out under pressures between 20 and 1200 bar (Col. 2 lines 52-53) and temperature range from 20 to 140°C (Col. 2 lines 48-49). Pilz et al also teach the use of supercritical gases is particularly suitable for solids which required to be very pure (Col. 2 lines 27-28).

Applicants' arguments regarding rejection of claims 3-7 under 35 U.S.C. 103(a) as being unpatentable over Kuhrts (US 2003/0228369) in view of Pilz et al (US 4,263,253), Erdelmeier et al. (US 2005/0042318) and Babish et al. (US 2003/0113393) and claims 9-13 under 35 U.S.C. 103(a) as being unpatentable over Kuhrts (US 2003/0228369) in view of Pilz et al (US 4,263,253), Ohnogi et al. (US 2004/0002423) are not deemed persuasive for the reasons stated above and in the previous Office action mailed September 7, 2007.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to VERA STULII whose telephone number is (571)272-3221. The examiner can normally be reached on 7:00 am-3:30 pm, Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Keith Hendricks can be reached on (571) 272-1401. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Steve Weinstein/
Primary Examiner, Art Unit 1794

VS